



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/587,363

07/27/2006

Kenji Yoneda

062711

6682

38834 7590 12/13/2007
WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP
1250 CONNECTICUT AVENUE, NW
SUITE 700
WASHINGTON, DC 20036

EXAMINER

QUINTO, KEVIN V

ART UNIT

PAPER NUMBER

2826

MAIL DATE

DELIVERY MODE

12/13/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/587,363

Applicant(s)

YONEDA ET AL.

Examiner

Kevin Quinto

Art Unit

2826

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12-19 is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 July 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>27 July 2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-7 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Aizawa et al. (United States Patent Application Publication No. US 2003/0038290 A1).

3. In reference to claim 1, Aizawa et al. (United States Patent Application Publication No. US 2003/0038290 A1, hereinafter referred to as the "Aizawa" reference) discloses a structure which meets the claim. Figures 1 and 2 of Aizawa disclose an LED (47) wherein a can type LED is provided with an anode, a cathode and an LED pedestal (39) within a housing. The connection ends (51a, 51b) of the anode and the cathode lead at least to the outside of the housing, so that a voltage can be applied between the anode and the cathode via these connection ends (51a, 51b). The LED is characterized in that a condition of isolation is maintained between the connection end (51a or 51b) of the anode and the housing as well as between the connection end (51a or 51b) of the cathode and the housing. A lead end (51d) is thermally connected to the LED pedestal (39) while being provided outside of the housing.

4. With regard to claim 2, the housing and the lead end (51d) of the LED pedestal (39) are electrically connected to each other (p. 4, paragraph 43).

5. In reference to claim 3, at least a portion of the housing, together with the lead end of the LED pedestal, is formed of an insulating material (33), whereas the connection ends (51a, 51b) of the anode and the cathode are formed of a conductive material.

6. With regard to claim 4, the lead position of the lead end (51d) is set substantially directly beneath the LED pedestal (39).

7. In reference to claim 5, the lead position of the lead end (51d) is set in a portion which is approximately aligned with the center of a transparent portion (57) that is attached to the housing (33) together with the LED pedestal (39).

8. With reference to claim 6, the lead position of the lead end (51d) is aligned in an approximately straight line with the lead positions of the respective connection ends (51a, 51b) of the anode and the cathode.

9. In reference to claim 7, an LED element (47) is placed on the LED pedestal (39) in a condition of electrical insulation.

10. With regard to claim 11, the examiner notes the limitation "characterized by being used for the emission of ultraviolet light." However a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. Therefore claim 11 is not patentable over Aizawa.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aizawa et.al. (United States Patent Application Publication No. US 2003/0038290 A1) in view of Sonobe et al. (USPN 6,054,716).

13. In reference to claim 8, Aizawa does not disclose the use of a diode that is connected between the anode and the cathode in an anti-parallel manner within the housing. However the implementation of a diode in this manner is well known in the art. Sonobe et al. (USPN 6,054,716, hereinafter referred to as the "Sonobe" reference) discloses, in figure 10, the use of a Zener diode (5) that is connected between the anode and the cathode in an anti-parallel manner within the housing of a light emitting device. Sonobe states that this has the benefit of protecting against damage caused by static electricity (abstract) which is a known problem in the art (column 1, lines 66-67 and column 2, lines 1-4). In view of Sonobe, it would therefore be obvious to use a diode that is connected between the anode and the cathode in an anti-parallel manner within the housing.

14. With regard to claim 9, Sonobe discloses that the diode is a Zener diode (column 12, lines 8-13).

15. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Aizawa et al. (United States Patent Application Publication No. US 2003/0038290 A1) in view of Sonobe et al. (USPN 6,054,716) and further in view of Freyman et al. (USPN 5,077,633).

16. In reference to claim 10, Aizawa does not disclose the use of a Zener diode within the housing. However the implementation of a Zener diode in this manner is well known in the art. Sonobe (USPN 6,054,716) discloses, in figure 10, the use of a Zener diode (5) that is connected between the anode and the cathode in an anti-parallel manner within the housing of a light emitting device. Sonobe states that this has the benefit of protecting against damage caused by static electricity (abstract) which is a known problem in the art (column 1, lines 66-67 and column 2, lines 1-4). In view of Sonobe, it would therefore be obvious to use a Zener diode that is connected within the housing of a light emitting device. Sonobe discloses that the Zener diode (5) is installed on a Zener diode pedestal within the housing. Sonobe discloses the use of a die pad (21) as the pedestal. Neither Aizawa nor Sonobe disclose the use of a die pad made of an insulating plate of which the surface is processed with a metal. However die pads made of an insulating plate with a surface that is processed with a metal is well known in the art. Freyman et al. (USPN 5,077,633, hereinafter referred to as the "Freyman" reference) discloses a known die pad made of an insulating plate with a surface that is processed with a metal (column 1, lines 27-40). The applicant is reminded in this regard that it has been held that mere selection of known materials generally understood to be suitable to make a device, the selection of the particular material being

on the basis of suitability for the intended use, would be entirely obvious. In re Leshin 125 USPQ 416. Therefore claim 10 is not patentable over the Aizawa, Sonobe, and Freyman references.

Allowable Subject Matter

17. Claims 12-19 are allowed.

18. The following is a statement of reasons for the indication of allowable subject matter: the examiner is unaware of any prior art which suggests or renders obvious an attachment structure for an LED which has an anode, a cathode, and a pedestal such that anode and cathode connections are provided within a housing to a wiring patterns a on a substrate while also having a lead end which is thermally connected from the pedestal to a heat radiating or cooling pattern which is independent of the wiring pattern of the substrate as suggested in claims 12 and 15.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Quinto whose telephone number is (571) 272-1920. The examiner can normally be reached on M-F 8AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sue Purvis can be reached on (571) 272-1236. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Application/Control Number:
10/587,363
Art Unit: 2826

Page 7

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KVQ

/A. Seferl
Primary Examiner
AU 2826